ABSTRACTS

Oils and Fats

Edited by
M. M. PISKUR and Ruth LINDAHL

rape seed, are fed through a hopper to grinding mills or grooved rollers submerged in the solvent, e.g., benzine, CCl_4, the ground material is then fed into a horizontal chamber contg. solvent through which it passes by a screw conveyor into a 2nd comminuting stage and then to a 2nd extg. chamber. The mass may then be pressed between smooth rollers to express the oil and solvent. The ext. is then distd. with steam to recover the oil. (*Chem. Abs.*)

Hydrolysis of fat. Victor Mills (to Proctor & Gamble Co. of Canada, Ltd.). Can. 365,544, Apr. 20, 1937. Fat and water are separately heated to 365-600° F., kept under pressure of 150-1600 lbs./sq. in., and passed counter-currently and continuously in contact with each other. An app. is described. (*Chem. Abs.*)

Preparing aldehydes. Armour and Company. Brit. 458,391. A "higher" (satd. or unsatd.) fatty acid or its aliphatic esters is reacted with formaldehyde vapor in the presence of an oxidizing catalyst.

Artificial resin. H. Honel. U. S. 2,074,509. An artificial resin is prepd. by heating phthalic anhydride, glycerine and castor oil up to temps. not substantially below 26° C. nor substantially above 270° C. and maintaining the temp. within this range for a sufficiently prolonged period to obtain a reaction product which is readily sol. in benzene hydrocarbons and which has a distinct drying capacity.

Drying oil product and process of making same. F. B. Root. U. S. 2,082,515. A drying oil product is prepd. by heating under reaction conditions a mixture consisting essentially of 2 components. a glyceride drying oil and formaldehyde.

Method of producing substituted aliphatic acids. J. B. Niederl. U. S. 2,082,459. A method of producing phenolic aliphatic acids by reacting an unsatd. aliphatic acid with phenol in the presence of a mixt. of glacial HAc and concd. H_2SO_4. The compds. obtained or in the form of their salts or esters may be used as constituents of soap prepns. or they may be used in treatment of diseases as for instance the products obtained from chaulmoogric acid for the treatment of leprosy and the like.

Miscible gum from drying oils. E. M. Williams. U. S. 2,082,371. A process for the production of a miscible gum which comprises heating a quantity of China-wood oil with a greater quantity of menhaden oil at a temp. of approx. 400° F. adding a quantity of PbAc and CoAc at said temp. and aerating the mixt. to produce a thickened oil mixt., adding a quantity of linseed oil and China-wood oil, to said heavy bodied oil, heating the same at a temp. of approx. 400° F. adding up to 5% by wt. of PbAc, CoAc and calcined MgO at such temp. and processing the same to a gum.

ABSTRACTS

Soaps

Edited by M. L. SHEELY

Medicated Soaps. *Soap Perfumery Cosmetics* **10,** 400 (1937).—Carbolic acid exercises a powerful antiseptic action. This is considerably weakened, however, when combined with caustic alkalies to form sodium phenate. It has been demonstrated that optimum disinfecting power of phenol soap mixes resides in the ratio of one part soap to one part carbolic acid.

Salicylic acid is not a powerful disinfectant but when used in soap prevents perspiration. Salicylic acids, like carbolic soaps, only keep when in the anhydrous or nearly anhydrous form.

Mercuric iodide and oxycyanide are used as disinfectants in soap. An increase in the absorptive powers of soap for mercury salts is said to be effected by addition of a proportion of cresol.

Sulphur is incorporated into soap by dissolving potassium sulphide in hot water and adding to the hot soap in a proportion not exceeding 30%. Polysulphides may also be added.

German patent 166,975 covers isolation of pure therapeutic constituents of tar for incorporation into soap. The patented product "Anthrasol" has a powerful odor but is pale in color.

Addition of lecithin in soap cannot usually be readily effected because both animal and vegetable lecithin contain 40-60% of oil for stabilizing purposes, which would cause rancidity when blended with soap. Saponified lecithin is inactive as a skin food. Only by means of preservatives can the rancidity be effectively retarded (e.g., in the case of soap containing 5% of oleaginous vegetable lecithin by means of 0.2% methyl p.-hydroxybenzoate and 0.1% hexamethylene tetramine).

Soap Flake Manufacture. *Oil Colour Trades J.* **91,** 1654 (1937).—An essential property of soap flakes is that they should be readily soluble in water. Such solubility depends on the m.p. of the fatty acids of the oil used and also the degree of saturation of the fatty acids. Ready lathering is also an advantage. For this reason cocoanut oil is taken as the base.

A writer in *Les Matieres Grasses* (1937, p. 118) says that groundnut oil is a useful addition and can be incorporated to the extent of 30-40 per cent. The soap formed from this mixture may be too friable in flakes, and modifications can be made by the addition of some potash soap, castor oil, sugar, glycerol, etc. With such a mixture discoloration may occur, and to avoid this only the best raw materials should be employed and some antioxidant added. The soap may also be dyed. It is an advantage to leave a little free alkali in the soap, e.g., below 0.1 per cent, as NaOH.

The Displacement of Fats and Oils (by Fatless Detergents). L. Zakarias. *Chimie & Industrie* **36,**

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1095-1100 (1936).—The application of Z.'s fat-free detergents to the cleansing of linoleum, wood, metal, painted surfaces, etc., was studied. Three methods are available for evaluating the degree of cleansing of such surfaces: (1) repulsion or adhesion of water to the cleansed surface; (2) acidification and detn. of fat (presumably in the detergent medium); (3) formation of grease or oil spots on tissue paper. A comparison of the 3 methods showed the first 2 to be entirely unreliable and the 3rd to be satisfactory. It has been observed in laundries that certain fat-free, starch-base cleansing agents are very efficient for removing grease and oil from clothes and for cleaning washing machines; they are not fat solvents nor emulsifiers, but displace the fats directly, driving them to the surface of the cleansing soln. All the usual degreasing agents are either strong fat solvents or strong fat emulsifiers. The characteristics of fat-free degreasing solns. are: They expel fats to the surface of the soln. They do not destroy the colloids of the soln. They increase in stability, elasticity and "slipperiness" by addn. of alkali and have a buffer effect toward alkalies. The degreasing of a metal surface is more complete according as a larger surface of the metal repels water applied to it, provided, however, it does not form a grease spot when tissue paper is applied to it; the metal is then covered by a sort of metal soap which repels the water and which protects the metal against corrosion. Degreasing is a collective phenomenon resulting from the combined action of the following factors: degreasing agent, time, temp. and rubbing. The fat-displacement theory was confirmed experimentally by the fact that the fat-free detergent 2% Na_2CO_3 degreases better than a straight 10% Na_2CO_3 soln. The fat-free detergent can remove only fatty matter that is liquid or that has been liquefied by pressure, heat or rubbing. Greasy material is rapidly removed from the hands. The fat-free detergent prevents rusting by forming a thin, water-sol. protective film; it sterilizes the cleansed objects (vital buffer effect). All the preceding results were confirmed by large-scale tests and by extensive application in the metallurgical (galvanizing), automobile, Al, food (bottle-cleaning) industries and in hotels (cleaning china, furniture, linoleums, floors. (*Chem. Abs.*)

Sweating or Efflorescence in Settled Toilet Soaps. N. N. Godbole and P. D. Srivastava. *Indian Soap J.* 3, 176-83 (1937).—If the globules of water that accumulate on the surface of settled toilet soap are to be explained by the phenomenon of syneresis and are not affected by the moisture of the air, then the soaps should remain const. in wt. or may lose in wt. as the deposited water comes from within the soap. To exam. the accuracy of this view, tablets of equal dimensions of various soaps of Indian and Foreign make were weighed in previously weighed glass dishes and exposed to the atm. during the months of Aug., Sept. and Oct., the rainy season in Benares. Weather conditions, max. and min. temps. and relative humidity in the room were recorded daily. The soaps were weighed every 24 hrs. After the soaps were kept under observation as described, some were transferred to a desiccator contg. water and kept under observation for a month. The inferences that can be drawn from these observations are: (1) During the rainy season the toilet soaps have weighed more than the original soap taken. (2) The increase in wt. is max. when the amt. of moisture in the air was the highest. (3) With a fall in the moisture content of the surrounding air there has been a corresponding loss in wt. owing to the evapn. of water (the total wt. of the soap, however, was greater than that of the sample at the start). (4) With Sunlight soap (washing) owing to the high percentage of water in the original soap (28%) there has been a gradual fall in the wt. of the soap, obviously because of the high vapor pressure of the soap itself, compared to the surrounding vapor pressure. (5) With toilet soaps, sweating appears to be entirely a question of the relation between the vapor pressure of the soap and the surrounding hygrometric condition. (*Chem. Abs.*)

PATENTS

Soap Tablets. Brit. 457,975, Dec. 4, 1936. Geo. V. Kereszty. Soap tablets having holes or channels filled with fat, wax, fatty acid, sulfonated fatty acid or an ester thereof or fat-like hydrocarbon are provided with a sep. insol. coating between the soap and filling. The filling may contain perfuming, cosmetic, coloring, cleansing, emulsifying, curative, germicidal, insecticidal and (or) substances. The coating may be formed by (1) coating the channels with varnish or hardened gelatin, (2) introducing into the channels a soln. of a salt of Ca, Al, Mg, Zn or other metal that will form an insol. soap with the tablet soap, (3) giving the filling a content of such a metal salt or other substance as will react with the tablet soap or with a substance added thereto, e.g., albumin or gelatin may be added to the tablet soap and formalin or $(CH_2O)_x$ to the filling, or (4) charging the filling with sufficient insol. soap of Ca, Al, etc., e.g., 10-15% of Zn stearate, preferably by dissolving said soap in the heated filling before insertion in the channels, whereby on cooling sufficient of the soap seps. out at the surface. (*Chem. Abs.*)

Wetting, Sudsing, Emulsifying and Detergent Agents Suitable for Laundry Use. U. S. 2,075,914. Arnon O. Snoddy and Wilfred S. Martin (to Proctor & Gamble Co.). April 6, 1937. Alcs. from sperm oil or other unsated. aliphatic alc. contg. 12-22 C atoms per mol. is caused to react with a reaction product of SO_3 on a metal chloride such as NaCl or a reaction product of chlorosulfonic acid on a chloride or sulfate (the metal of the reacting salt being one which forms a water-sol. product with the sulfuric ester of the alc.). U. S. 2,075,915 relates to similar reaction products derived from alcs. from coconut oil or other sliphatic alcs. contg. 10-22 C atoms per mol. (*Chem. Abs.*)

Soap. I. G. Farbenind, A.-G. (August Ruppert, inventor). Ger. 639,583, Dec. 8, 1936 (Cl. 23e.2). Moldable jelly-like or solid masses are formed from Na or K soaps, by adding polyglycol ether, especially polyethylene glycol ether, and liquid hydrocarbons, or chlorohydrocarbons. These substances may be added before, during or after the soap saponification. Thus, the monoethyl ether of polyethyleneglycol is mixed with linseed oil and the oil saponified with KOH. CCl_4 is added. The product is a jelly-like soap. Other examples are given. (*Chem. Abs.*)